UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,716	01/09/2001	Holly Magna	PF-0420-2 DIV	8687

27904 7590 10/21/2002

INCYTE GENOMICS, INC.
3160 PORTER DRIVE
PALO ALTO, CA 94304

EXAMINER
DECLOUX, AMY M

ART UNIT	PAPER NUMBER
1644	9

DATE MAILED: 10/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/757,716	MAGNA ET AL.	
	Examiner	Art Unit	
	Amy M. DeCloux	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *45-64* is/are pending in the application.

4a) Of the above claim(s) *45,47,50,52 and 61-64* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *46,48,49,51 and 53-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 January 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group II which correspond to newly added claims 46, 48-49, 51 and 53-60, in Paper No. 8, filed 7-23-02, is acknowledged. The traversal is on the ground(s) that the claims of Groups III and IV and V are process claims drawn to the same scope of products defined by Group I and there would be no undue burden on the examiner to consider all of the pending claims together. Applicants further contend that there is minimal additional burden on the examiner to examine newly added claims 63-64 drawn to polynucleotides since claims directed to polynucleotide inventions have already been issued in the parent case. It is noted that each application is examined on the basis of its own merits and that the instant examiner did not examine the parent application.

This is not found persuasive because a search of the product of Group II is distinct from the methods of Groups III, IV and V for the reasons given in the restriction mailed 7-14-02 (Paper No. 6), and as such Group II has acquired a separate status in the art from that of Groups III, IV and V because of their recognized divergent subject matter. It is further noted that the polynucleotide subject matter of newly added claims 63-64 has acquired a separate status in the art from the antibody subject matter of Group II. MPEP 803 states that :"For the purposes of the initial requirement, a serious burden on the examiner may be prima facie shown if the examiner shows by appropriate explanation either separate classification, separate status in the art, or different field of search. Though the searches for Group II and for that of Groups III, IV and V are overlapping, they are not coextensive. Therefore, an examination and search of Group II with Groups III, IV and V in a single application would constitute a serious undue burden on the Examiner, and restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

Claims 45, 47, 50, 52 and 61-64 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8, filed 7-23-02.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Priority

Applicant should update the status of the priority document disclosed in the first sentence of the specification.

Drawings

New formal drawings are required in this application because of the reasons outlined in the attached Drawing Review. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

3. Timing of Corrections

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.185(a). Failure to take corrective action within the set (or extended) period will result in **ABANDONMENT** of the application.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

A) Claims 46, 48-49, 51, 53-60 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a written description rejection.

Claims 46, 48-49, 51, 53-60 are drawn to an antibody which specifically binds to a polypeptide comprising an amino acid of SEQ ID NO:1, to a polypeptide comprising a naturally occurring amino acid sequence at least 90% identical to an amino acid sequence of SEQ ID NO:1, to a biologically active fragment of a peptide having an amino acid sequence of SEQ I DNO:1, and to an immunogenic fragment of a polypeptide having an amino acid sequence of SEQ ID NO:1, a composition comprising said antibody and a method of making said antibody.

The specification discloses on page 11 that the term identity may substitute for the term homology and refers to a degree of complementarity . By incorporating percent identity language into the claims, the antibodies encompassed are directed not only to a polypeptide having an amino acid sequence of SEQ ID NO:1, but also to variants of the said polypeptide which can contain amino acid alterations, including additions, deletions and substitutions, which include polypeptides with no recited functional limitations. It is noted that the specification does not appear to describe any said polypeptides comprising an amino acid sequence at least 90% identical to an amino acid sequence of SEQ ID NO:1, except for that of SEQ ID NO:1.

Regarding fragments of a polypeptide having an amino acid sequence of SEQ ID NO:1, the instant specification discloses on page 10 that the term biologically active refers to a protein having structural regulatory or biochemical functions of a naturally occurring molecule. For examination purposes it is assumed that the molecule referred to is a polypeptide comprising the amino acid sequence of SEQ ID NO:1, and notes no such fragments have been described in the specification. It is also noted that the specification neither specifically defines nor describes an immunogenic fragment of SEQ ID NO:1; but does disclose on page 56 that the amino acid sequence from the cDNA encoding NTPPH-2 is analyzed using DNASTAR (TM) software to determine regions of high immunogenicity. Further, the Examples in the instant specification do not appear to describe any biologically active fragments nor any immunogenic fragments of a polypeptide having an amino acid sequence of SEQ ID NO:1.

Also the specification discloses no description of the required structural features of the polypeptide that are essential for the activity(ies) of NHTPPH-2, nor does the prior art provide compensatory structural or correlative teachings to enable one of skill to identify said structure. Without a description of the biologically active or immunogenic fragments of a polypeptide having an amino acid sequence of SEQ ID NO:1. and without a description of a polypeptide comprising a naturally occurring amino acid sequence at least 90% identical to an amino acid sequence of SEQ ID NO:1), there is not an adequate disclosed description of an antibody which specifically binds to the polypeptides encompassed by the instant claims with the exception of an antibody which specifically binds to the polypeptide comprising the amino acid sequence of SEQ ID NO:1.

The instant disclosure of an antibody to SEQ ID NO:1 does not adequately describe the scope of the claimed genus of an antibody which specifically binds to a polypeptide comprising a naturally occurring amino acid sequence at least 90% identical to an amino acid sequence of SEQ ID NO:1, a biologically active fragment of a peptide having an amino acid sequence of SEQ I D NO:1, and an immunogenic fragment of a polypeptide having an amino acid sequence of SEQ ID NO:1, a composition comprising said antibody and a method of making said antibody, which encompasses a substantial variety of subgenera of antibodies.

It is noted that a description of a genus of cDNAs may be achieved by means of a recitation of a representative number of cDNAs, defined by nucleotide sequence, falling within the scope of the genus, or of a recitation of structural features common to the genus, which features constitute a substantial portion of the genus. *Regents of the University of California v. Eli Lilly&Co.*, 119F3d 1559, 1569, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997).

Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, makes clear that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed.*

B) Claims 46, 48-49, 51, 53-60 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an antibody directed to the polypeptide comprising the amino acid sequence of SEQ ID NO:1, a composition comprising said antibody and a method of making said antibody, does not reasonably provide enablement for an antibody which specifically binds to a polypeptide comprising a naturally occurring amino acid sequence at least 90% identical to an amino acid sequence of SEQ ID NO:1, to a biologically active fragment of a peptide having an amino acid sequence of SEQ I DNO:1, and to an immunogenic fragment of a polypeptide having an amino acid sequence of SEQ ID NO:1, a composition comprising said antibody and a method of making said antibody . The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Claims 46, 48-49, 51, 53-60 are drawn to an antibody which specifically binds to a polypeptide comprising an amino acid of SEQ ID NO:1, to a polypeptide comprising a naturally occurring amino acid sequence at least 90% identical to an amino acid sequence of SEQ ID NO:1, to a biologically active fragment of a peptide having an amino acid sequence of SEQ I DNO:1, and to an immunogenic fragment of a polypeptide having an amino acid sequence of SEQ ID NO:1, a composition comprising said antibody and a method of making said antibody.

The specification discloses on page 11 that the term identity may substitute for the term homology and refers to a degree of complementarity . By incorporating percent identity language into the claims, the antibodies encompassed are directed not only to a polypeptide having an amino acid sequence of SEQ ID NO:1, but also to variants of the said polypeptide which can contain amino acid alterations, including additions, deletions and substitutions, which include polypeptides with no recited functional limitations. It is noted that the specification does not appear to disclose the sequence of any said polypeptides comprising an amino acid sequence at least 90% identical to an amino acid sequence of SEQ ID NO:1, except for that of SEQ ID NO:1.

Regarding fragments of a polypeptide having an amino acid sequence of SEQ ID NO:1, the instant specification discloses on page 10 that the term biologically active refers to a protein having structural regulatory or biochemical functions of a naturally occurring molecule. For examination purposes it is assumed that the molecule referred to is a polypeptide comprising the amino acid sequence of SEQ ID NO:1, and notes no such fragments have been disclosed in the specification. It is also noted that the specification neither specifically defines nor discloses an immunogenic fragment of SEQ ID NO:1; but does disclose on page 56 that the amino acid sequence from the cDNA encoding NTPPH-2 is analyzed using DNASTAR (TM) software to determine regions of high immunogenicity.

The specification does not appear to disclose or exemplify any said biologically active or immunogenic fragments of a polypeptide having an amino acid sequence of SEQ ID NO:1. Further the instant specification discloses no description of the required structural features of the amino acids that are essential for the activity(ies) of NHTPPH-2, nor does the prior art provide compensatory structural or correlative teachings to enable one of skill to identify said amino acids.

Therefore it would require undue experimentation for one of skill in the art to predict how to make and use antibodies which specifically bind to the recited fragments a polypeptide having an amino acid sequence of SEQ ID NO:1 or to polypeptides with 90% identity to a polypeptide having an amino acid sequence of SEQ ID NO:1, without further guidance and direction from the specification regarding the functional activities of the polypeptides. It is known in the art that even a single amino acid change in a polypeptide's amino acid sequence can have dramatic effects on its function. For example, Sugie K et al. ; (PNAS (1997 May 13) 94 (10) 5278-83) teaches that the human glycosylation-inhibiting factor (GIF) protein differs from human macrophage migration inhibitory factor (MIF) by a single amino acid residue, and also notes that GIF is unable to carry out the function of MIF and MIF does not demonstrate GIF bioactivity (see entire article including the Abstract). Without knowing the function of the

polypeptides related to a polypeptide comprising an amino acid sequence comprising SEQ ID NO:1, it would require undue experimentation for one of skill to predict the function of antibodies which specifically binds to said polypeptides, and it would require undue experimentation for one of skill to make and use the claimed antibodies and composition thereof, other than those antibodies specific for a polypeptide comprising an amino acid sequence comprising SEQ ID NO:1.

In re Fisher, 166 USPQ 18 indicates that the more unpredictable an area is, the more ...ific enablement is necessary in order to satisfy the statute.

...the claim... ...the quantity of experimentation necessary, the limited working examples, the ...the lack of sufficient guidance in the specification and the breadth of ...mentation to practice the claimed invention.

The following is a quotation of ...ragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 46, 48-49, 51, 53-60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) The instant claims are indefinite because they depend on a cancelled claim (claim 45).

B) The instant claims are indefinite in the recitation of "at least 90% identical" because the algorithm used to define identity is not disclosed in the specification. The term is only defined in the specification on page 11, by stating that the term identity may substituted for the term homology and refers to a degree of complementarity. It is not clear how an amino acid sequence can have homology to another amino acid sequence.

Conclusion

No Claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy M. DeCloux whose telephone number is 703 306-5... The examiner can normally be reached on M-F 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on 703 308-3973. The fax phone numbers organization where this application or proceeding is assigned are 703 305-3014 for re communications and 703 872-9307 for After Final communications.

Pat

:ation/Control Number: 09/757,716

Unit: 1644

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0196.

Patrick J. Nolan, Ph.D.
Primary Patent Examiner,
Group 1640

Amy DeCloux, Ph.D.
Patent Examiner,
October 13, 2002